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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,606	07/17/2003	Jinsong Hua	2038-0114P	9281
2292	7590	11/02/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			BARNEY, SETH E	
			ART UNIT	PAPER NUMBER

3752

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/620,606

**Applicant(s)**

HUA, JINSONG

**Examiner**

Seth Barney

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/17/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-10, drawn to a spray head, classified in class 239, subclass 544.
  - II. Claims 11-16, drawn to a nozzle, classified in class 239, subclass 433.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination would be able to produce the spray with a different nozzle. The subcombination has separate utility such as a paint-spraying nozzle.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Carl Thomsen on October 21, 2004 a provisional election was made with traverse to prosecute the invention of the spray head, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-18 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Drawings***

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "stop" in claim 10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

6. The disclosure is objected to because of the following informalities: The "stop" in claim 10 is not disclosed in the specification.

Appropriate correction is required.

***Claim Objections***

7. Claim 10 is objected to because of the following informalities: The "stop" is not disclosed in the specification. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 2,928,611 to Lauderback.

Regarding claim 1, Lauderback discloses a fire fighting spray head having a water supply duct (see Figure 1), a spray head upper body (see Figure 1), a fluid chamber (5), a "w" shaped bottom (see Figure 1), and at least two rings of nozzles (see Figure 2 and 3).

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Regarding claim 2, Lauderback discloses a spray head having an outer ring and an inner ring, where the nozzles installed on the outer ring point outward and downward and the inner ring points inward and downward. See Figure 2.

Regarding claim 3, the combination of the water sprays through the nozzles (25 and 26) would result in a finer spray than the individual nozzle spray.

Regarding claim 4, as seen in Figure 2 the water spray combines to produce finer water droplets.

Regarding claim 5, the inner ring is angled such that the mist collides tangentially. See Figure 2.

Regarding claim 7, the spray head produces a solid cone spray pattern. See Figure 2.

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 2,928,611 to Lauderback as applied to claims 1, 2, 4, and 5 above, and further in view of U.S. patent number 5,513,708 to Sundholm.

Regarding claim 6, Lauderback does not disclose the spray head having a downward water mist nozzle installed on the face of the spray head. Sundholm

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discloses a fire spray assembly having a central spray nozzle (see Figures 5-16) in the spray head. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the spray head of Lauderback with the nozzle of Sundholm in order to improve fire-extinguishing performance through a central nozzle.

Regarding claims 8 and 9, Lauderback does not disclose the nozzles are assembled with the spray head by a thread screw connection. Sundholm discloses a fire spray assembly having spray nozzles assembled by a thread screw connection (Figure 7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the spray head of Lauderback with the screw connection of Sundholm in order to easily replace old nozzles with new ones.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 3,844,485 to Waggoner discloses a spray apparatus having a central spray nozzle and two outer spray nozzles spraying downward and inward. U.S. Patent No. 3,606,154 to Tufts discloses a spray coating apparatus having central spray nozzle and two outer spray nozzles spraying downward and inward. U.S. Patent No. 6,315,219 to Palestrant discloses a spraying device that produces mist through three nozzles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seth Barney whose telephone number is (703) 308-2603 until November 21, 2004. Effective November 22, 2004 the number will be (571) 272-4896. The examiner can normally be reached on 7:30am-4:00pm (Mon-Fri).

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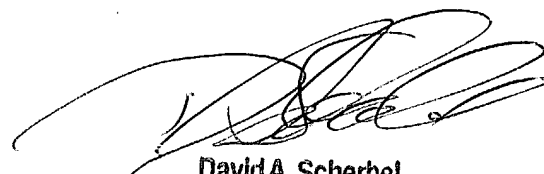
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on (703)308-1272. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Seth Barney  
Examiner  
Art Unit 3752

SB

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David A. Scherbel  
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